

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-93. (Cancelled)

94. (Currently Amended) In a server that provides remote client access to one or more computer programs in order to allow remote user interaction therewith, a method of generating a compressed video stream representing a display for the one or more computer programs by modifying elements of the display for efficient compression, the method comprising:

generating display elements at a server, the display elements representing at least a portion of a display ~~and corresponding to~~ for a computer program running at the server, which is configured to receive remote interaction from ~~for~~ a remote client;

receiving, at the computer program, continuous user interaction via the remote client that changes one or more elements of the display for said executed computer program, wherein at least one of the display elements changed is an unmodified object;

modifying at least said unmodified object to produce a modified object, wherein said modification is performed independently of said executed computer program in such a way that the modified object will be more efficiently converted to a compressed video stream than the unmodified object; and

generating a compressed video stream by converting at least said modified object into said compressed video stream for rendering at least a portion of said display of the executed computer program at a display device at the client for allowing a user interaction with the at least one of the display elements.

95. (Previously Presented) A method according to claim 94, wherein said modifying comprises modifying said unmodified object responsive to limitations of said display device on which said compressed video stream is to be displayed.

96. (Previously Presented) A method according to claim 94, wherein modifying comprises modifying said unmodified object to reduce bandwidth requirements of said compressed video stream.

97. (Previously Presented) A method according to claim 94, wherein modifying comprises modifying said unmodified object to reduce resource requirements for compressing said compressed video stream.

98. (Previously Presented) A method according to claim 94, wherein said modifying comprises changing said unmodified object such that the unmodified object is moved relative to its original display position.

99. (Previously Presented) A method according to claim 98, wherein said compressed video stream utilizes blocks having boundaries and wherein moving comprises moving said unmodified object to match at least one compression block boundary.

100. (Previously Presented) A method according to claim 94, wherein said modifying comprises replacing said unmodified object with a different object to produce said modified object.

101. (Previously Presented) A method according to claim 100, wherein replacing said unmodified object comprises replacing said unmodified object with a compressed representation of said different object.

102. (Previously Presented) A method according to claim 100, wherein said unmodified object comprises a text object.

103. (Previously Presented) A method according to claim 100, wherein said unmodified object comprises a background of said display.

104. (Previously Presented) A method according to claim 100, comprising analyzing said unmodified object to determine a closest suitable replacement object for producing said modified object.

105. (Previously Presented) A method according to claim 94, wherein modifying said unmodified object comprises changing a font definition for said unmodified object.

106. (Previously Presented) A method according to claim 94, wherein modifying said unmodified object comprises modifying at least one color of said unmodified object.

107. (Original) A method according to claim 106, wherein modifying a color composes reducing a spatial resolution of said colors.

108. (Original) A method according to claim 106, wherein modifying a color composes reducing a color range resolution of said colors.

109. (Previously Presented) A method according to claim 94, wherein modifying said unmodified object comprises reducing a spatial resolution of said unmodified object.

110. (Previously Presented) A method according to claim 94, wherein said unmodified object comprises a scrolling command and wherein said modifying comprises increasing a granularity of said scrolling.

111. (Original) A method according to claim 110, wherein said increasing a granularity comprises limiting said scrolling command to multiples of compression blocks size of said compressed stream.

112-127. (Cancelled)

128. (Currently Amended) In a server that provides remote client access to one or more computer programs, a method of determining when to generate a compressed video stream representing a display for the one or more computer programs by monitoring changes to the display, the method comprising:

executing a computer program at a server, wherein the execution of the computer program generates display objects from a set of display commands, the display objects representing ~~are~~ at least a portion of a display for said computer program;

identifying changes ~~corresponding to~~ of said display which are responsive to at least one type of continuous user interaction command received from a remote client;

determining whether said changes warrant an update to an image based at least in part on one or more of available bandwidth, available computing power, or type of user connection; and

upon determining said changes do warrant an update, processing said changes and converting said display commands into a compressed video stream, wherein said changes are inserted into said compressed video stream at an update frame rate corresponding to a priority assigned to other portions of the display that are unchanged and such that changes to said image are inserted into the compressed video stream at a faster rate than compressed data that does not include changes to said image.

129. (Original) A method according to claim 128, wherein said type of user command comprises a pointing device command.

130. (Original) A method according to claim 128, wherein said changes comprises an indication of a selection of a GUI (graphical user interface) element.

131. (Original) A method according to claim 128, comprising analyzing said user command to determine display commands which effect said identified changes.

132. (Previously Presented) A method as recited in claim 94, wherein the compressed video stream is generated without first generating a display raster of at least the unmodified object.

133. (Previously Presented) A method as recited in claim 128, wherein the display commands are directly converted into the compressed video stream without first generating a display raster of the display commands.

134. (Previously Presented) The method of claim 94, wherein the modification is performed in such a way that the modified object will be converted to compressed video faster than the unmodified object.

135. (Previously Presented) The method of claim 94, wherein the modification includes replacing an object of the display, and wherein the replacement is based on the type of the object.

136. (Previously Presented) The method of claim 94, wherein generating display object comprises generating display commands, wherein modifying comprises changing at least one of the display commands, and wherein the compressed video includes the at least one of the display commands after it is modified without first being rendered at the server.

137. (Previously Presented) The method of claim 94, wherein the unmodified object is modified to produce the modified object by one or more of: adjusting a cursor flashing rate so

that a lower frame rate is required; adjusting the colors of the unmodified object so that the compression of a color component is more efficient; or moving the unmodified object so as to not straddle compression-block boundaries.

138. (Previously Presented) The method of claim 94, wherein the unmodified object is a display background, which is modified to produce the modified object by replacing the display background to simplify compression or to utilize a pre-compressed background.

139. (Previously Presented) The method of claim 128, wherein only changed portions of the image are processed and a new output frame is assembled that includes both newly compressed image portions and unchanged compressed image portions.